

# Mineral Industry Surveys

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## SILICON IN MARCH 2005

Preliminary data for March 2005 indicate that domestic production of silicon ferroalloys plus metal, on a gross-weight basis, increased by 2% compared with the production figure of 29,700 metric tons (t) in February 2005, according to the U.S. Geological Survey. Net domestic shipments were about the same as those of the prior month. Stocks decreased by 7% compared with those of February 2005, owing to adjustments in inventory and in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other miscellaneous alloys.

Domestic production and shipments of ferrosilicon and silicon metal during the first quarter of 2005 were 1) 16% and 13% higher, respectively, than those of the fourth quarter of 2004; and 2) 14% and 13% higher, respectively, compared with those during the first quarter of 2004. All domestic data for ferrosilicon have been combined to avoid disclosing company proprietary data.

Based on a gross-weight comparison of February 2005 export data (table 2) to those of January 2005, ferrosilicon exports increased by 13%, owing to an increase in the ferrosilicon, more than 55% silicon, trade category. Silicon metal exports decreased by about 38%, owing to decreases in the high-purity (greater than 99.99% silicon) and "other" silicon metal trade categories.

Based on a gross-weight comparison of February 2005 import data (table 3) to those of January 2005, ferrosilicon imports increased by 84%, owing primarily to an increase in the ferrosilicon, 55%-80% silicon, other trade category. Silicon metal imports decreased by 24% over the same period because of a decrease in the 99.00%-99.99% silicon trade category.

### Prices, cents per pound, silicon content

	<u>50% Ferrosilicon<sup>1</sup></u>	<u>75% Ferrosilicon<sup>2</sup></u>	<u>Silicon Metal<sup>2</sup></u>
<b>March 3</b>	<b>63.00-66.00</b>	<b>54.00-56.00</b>	<b>78.00-82.00</b>
<b>March 10</b>	<b>63.00-66.00</b>	<b>54.00-56.00</b>	<b>78.00-82.00</b>
<b>March 17</b>	<b>62.00-65.00</b>	<b>52.00-55.00</b>	<b>78.00-81.00</b>
<b>March 24</b>	<b>61.00-64.00</b>	<b>50.00-51.00</b>	<b>78.00-81.00</b>
<b>March 31</b>	<b>60.00-62.00</b>	<b>50.00-51.00</b>	<b>78.00-81.00</b>

<sup>1</sup>Source: Ryan's Notes, North American transaction price.

<sup>2</sup>Source: Platts Metals Week, dealer import price.

TABLE 1  
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2005<sup>1, 2, 3</sup>

(Metric tons)

Material	Gross production <sup>4</sup>		Net shipments		Stocks, March 31
	March	Year to date	March	Year to date	
Ferrosilicon, all grades <sup>5, 6</sup>	17,600	52,900	16,400	48,600	18,000
Silicon metal, excludes semiconductor grades	12,800	38,600	12,400	34,800	10,000

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Includes U.S. Geological Survey estimates.

<sup>3</sup>Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

<sup>4</sup>Includes in-plant consumption, as in production of magnesium ferrosilicon and other miscellaneous alloys.

<sup>5</sup>Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

<sup>6</sup>Includes miscellaneous silicon alloys.

TABLE 2  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN FEBRUARY 2005<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Canada	607	364	\$667,000	1,090	653	\$1,110,000
Colombia	5	4	7,800	5	4	7,800
Malaysia	11	8	15,600	11	8	15,600
Mexico	126	76	144,000	185	111	216,000
Netherlands	--	--	--	49	38	78,800
Total	750	453	834,000	1,340	813	1,430,000
Other ferrosilicon:						
Canada	201	100	234,000	465	233	499,000
Colombia	14	6	19,500	14	6	19,500
Mexico	47	24	39,800	90	45	98,000
Spain	--	--	--	7	4	6,470
United Kingdom	4	2	3,050	4	2	3,050
Total	266	132	296,000	580	289	626,000
Total ferrosilicon	1,020	585	1,130,000	1,920	1,100	2,060,000

See footnotes at end of table.

TABLE 2--Continued  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN FEBRUARY 2005<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal:						
More than 99.99% silicon:						
China	107	XX	\$4,160,000	235	XX	\$8,870,000
Finland	--	XX	--	34	XX	871,000
France	(3)	XX	7,490	13	XX	360,000
Germany	97	XX	3,940,000	272	XX	10,100,000
Japan	515	XX	26,000,000	1,210	XX	54,100,000
Korea, Republic of	70	XX	3,790,000	129	XX	6,650,000
Malaysia	10	XX	2,250,000	17	XX	3,500,000
Norway	91	XX	3,050,000	160	XX	5,340,000
Taiwan	18	XX	907,000	69	XX	3,160,000
United Kingdom	43	XX	2,050,000	51	XX	3,000,000
Other (20 countries)	37	XX	2,550,000	62	XX	4,010,000
Total	987	988 °	48,600,000	2,250	2,250 °	100,000,000
99.00% - 99.99% silicon:						
Brazil	83	82	186,000	104	103	250,000
France	140	139	371,000	140	139	371,000
Germany	--	--	--	2	2	3,330
Japan	20	20	35,000	20	20	35,000
Korea, Republic of	4	4	5,050	4	4	5,050
Mexico	6	6	7,910	12	12	16,900
Sweden	3	3	4,900	3	3	4,900
Trinidad and Tobago	--	--	--	14	13	24,300
United Kingdom	2	2	3,330	20	20	28,900
Total	258	255	613,000	320	317	739,000
Other silicon:						
Canada	25	25	33,400	81	79	108,000
China	22	22	21,900	25	24	25,100
Germany	8	8	13,100	8	8	13,100
Hong Kong	--	--	--	16	16	93,000
Japan	25	24	138,000	142	138	292,000
Korea, Republic of	--	--	--	413	401	545,000
Mexico	36	35	113,000	90	87	256,000
Netherlands	21	20	252,000	44	42	360,000
Russia	--	--	--	224	218	296,000
United Kingdom	--	--	--	18	17	151,000
Other (8 countries)	6	6	25,600	16	15	38,200
Total	145	140	596,000	1,080	1,050	2,180,000
Total silicon metal	1,390	1,380	49,900,000	3,650	3,610	103,000,000

<sup>e</sup>Estimated. XX Not applicable. -- Zero.

<sup>1</sup>Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top 10 countries.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN FEBRUARY 2005<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55% - 80% silicon, over 3% Ca:						
China	20	12	\$27,200	38	17	\$53,000
Germany	--	--	--	10	6 <sup>3</sup>	13,300
United Kingdom	5	3	28,900	5	3	28,900
Total	25	15	56,100	53	26	95,100
55% - 80% silicon, Other:						
Brazil	62	47	56,900	87	65	83,800
Canada	903	685	854,000	1,920	1,450	1,710,000
China	11,100	8,430	8,030,000	18,800	14,400	13,800,000
France	193	134	386,000	475	327	898,000
Germany	17	12	93,600	67	50	297,000
India	--	--	--	20	14	19,000
Norway	767	561	954,000	1,320	966	1,580,000
Russia	7,450	5,580	5,150,000	9,950	7,340	6,920,000
Venezuela	5,690	4,290	4,360,000	5,770	4,350	4,430,000
Total	26,100	19,700	19,900,000	38,500	28,900	29,700,000
Magnesium ferrosilicon:						
Argentina	79	37	86,000	517	240	441,000
Brazil	127	57	108,000	417	188	377,000
Canada	472	220	459,000	913	423	875,000
China	728	342	452,000	1,110	512	742,000
India	--	--	--	2	9 <sup>3</sup>	20,700
Japan	16	7	32,000	32	15	50,100
Netherlands	--	--	--	27	13	16,600
Norway	775	360	656,000	1,840	856	1,560,000
Total	2,200	1,020	1,790,000	4,860	2,260	4,080,000
Other ferrosilicon:						
Brazil	20	10	41,700	20	10	41,700
Canada	796	190	633,000	1,690	426	1,310,000
China	100	44	100,000	100	44	100,000
India	38	29	63,900	76	57	130,000
Russia	5	3	4,900	5	3	4,900
Total	959	276	844,000	1,890	540	1,590,000
Total ferrosilicon	29,300	21,100	22,600,000	45,300	31,800	35,500,000

See footnotes at end of table.

TABLE 3--Continued  
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN FEBRUARY 2005<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal:						
More than 99.99% silicon:						
Australia	--	XX	--	(4)	XX	\$2,080
China	4	XX	\$55,400	6	XX	71,800
Denmark	(4)	XX	153,000	1	XX	270,000
Germany	71	XX	6,450,000	127	XX	12,900,000
Italy	9	XX	515,000	52	XX	2,040,000
Japan	54	XX	3,860,000	111	XX	7,020,000
Korea, Republic of	5	XX	662,000	7	XX	910,000
Philippines	119	XX	174,000	179	XX	253,000
Spain	(4)	XX	3,670	1	XX	11,600
Total	262	262 <sup>c</sup>	11,900,000	484	484 <sup>c</sup>	23,500,000
99.00% - 99.99% silicon:						
Australia	688	683	1,180,000	1,450	1,440	2,460,000
Brazil	3,620	3,600	4,800,000	9,310	9,250	12,000,000
Canada	1,940	1,930	3,040,000	3,030	3,010	4,670,000
France	180	179	253,000	380	377	506,000
Norway	792	787	1,700,000	1,370	1,370	3,840,000
Philippines	187	88 <sup>3</sup>	284,000	227	128 <sup>3</sup>	342,000
South Africa	--	--	--	2,520	2,280 <sup>3</sup>	3,330,000
Sweden	(4)	(4)	6,800	12	12	86,400
Total	7,420	7,270	11,300,000	18,300	17,900	27,300,000
Other silicon:						
Belgium	32	3 <sup>3</sup>	35,400	57	6 <sup>3</sup>	62,100
Brazil	1,440	1,420	1,840,000	2,160	2,130	2,770,000
Canada	705	693	1,230,000	1,520	1,490	2,660,000
China	132	130	141,000	582	574	630,000
Japan	--	--	--	11	(4) <sup>3</sup>	12,000
Norway	277	272	379,000	768	752	1,050,000
Philippines	11	1	15,200	11	1	15,200
South Africa	78	75	93,700	230	224	274,000
Sweden	100	98	150,000	160	157	250,000
Ukraine	6	(4) <sup>3</sup>	6,290	6	(4) <sup>3</sup>	6,290
Other (United Kingdom)	--	--	--	(4)	(4)	5,190
Total	2,780	2,690	3,900,000	5,500	5,330	7,730,000
Total silicon metal	10,500	10,200	27,000,000	24,300	23,700	58,500,000

<sup>e</sup>Estimated. XX Not applicable. -- Zero.

<sup>1</sup>Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top 10 countries.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>4</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.